PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of	Docket No: Q80109
Toru YANO, et al.	
Appln. No.: 10/787,415	Group Art Unit: 1712
Confirmation No.: 4540	Examiner: Alicia TOSCANO
Filed: February 27, 2004	

For: BIODEGRADABLE RESIN COMPOSITION AND BIODEGRADABLE RESIN MOLDED

SUBMISSION OF EXECUTED DECLARATION UNDER 37 C.F.R. § 1.132

MAIL STOP AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

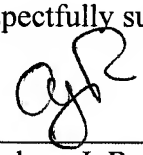
Sir:

Applicants submit herewith the executed Declaration under 37 C.F.R. § 1.132 of Toru YANO dated November 16, 2007. The unexecuted Declaration was submitted together with the Response under 37 C.F.R. § 1.111 filed November 14, 2007.

Entry of the executed Declaration is respectfully requested.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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Date: November 26, 2007

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DECLARATION UNDER 37 C.F.R. § 1.132

MAIL STOP AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Toru YANO, do declare and state that:

In March of 1986, I graduated from the Graduate School of Okayama University of Science, receiving a Doctor's degree in the field of Material Science.

In January of 1992, I was employed by Nishikawa Rubber Co., Ltd. and assigned to the Automotive Division of the R&D Department of said company.

From October of 1994 to the present, I have principally been engaged in research relating to polymerization of biodegradable resins.

I am a co-inventor of the invention described and claimed in my above-identified application.

My invention relates to a biodegradable resin composition comprising an L-lactic acid unit-containing resin (1) and a D-lactic acid unit-containing resin (2). The L-lactic acid unit-

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containing resin (1) is a homopolymer of L-lactic acid, and the D-lactic acid unit-containing resin (2) is a copolymer of D-lactic acid and a saccharide. Moreover, resin (2) is present in an amount of from 3 to 25 parts by weight per 100 parts by weight of resin (1).

I am familiar with the prosecution of the above-identified application, and the most recent Office Action dated June 14, 2007.

In order to establish criticality in the claimed range of from 3 to 25 parts by weight of resin (2) per 100 parts by weight of resin (1) for achieving the effects of my invention, I report below on experimentation which was conducted by myself or under my direct supervision.

Specifically, the procedure illustrated in Example 5 at page 23 of my specification was supplemented to include an additional Sample No. 19 in which resin (1) which is a homopolymer of L-lactic acid was mixed with resin (2) which is a copolymer of D-lactic acid and a saccharide in an amount of 30 parts by weight per 100 parts by weight of resin (1). The resin composition thus prepared was evaluated with respect to melting point, crystallization rate and moldability, the results of which are set forth in Table 4' shown below. Table 4' also includes the test data for Sample Nos. 13 to 18 as set forth at page 23 of my specification.

Table 4'

No.	13	14	15	16	17	18	19
Resin (1)	100	100	100	100	100	100	100
Resin (2)	-	1	3	5	11	25	30
Melting point (°C)	183	182	188	187	187	200	Unmeasurable
Crystallization rate	Small	Small	Medium	Large	Large	Large	Large
Moldability	good	good	good	good	good	good	poor

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As indicated in the footnote under Table 4 at page 23 of the specification, if the melting temperature is higher than 200°C, the molding temperature becomes close to the decomposition temperature of polylactic acid, which results in poor moldability. See Sample No. 19.

As discussed at pages 12-13 of my specification, the biodegradable resin decomposition of the invention has an improved crystallization rate, i.e., an increased crystallization rate. Thereby, crystallization is rapidly completed during the molding step of the composition and thus heat deformation of the resulting molded article is remarkably inhibited. As shown in Table 4', Sample Nos. 15-18 containing resin (2) in an amount of from 3 to 25 parts by weight per 100 parts by weight of resin (1) provided both a higher melting point and crystallization rate as compared to Sample Nos. 13 and 14 containing resin (2) in an amount of less than 3 parts by weight per 100 parts by weight of resin (1). On the other hand, Sample No. 19 containing resin (2) in an amount of 30 parts by weight per 100 parts by weight of resin (1) outside the scope of my invention resulted in poor moldability. Moreover, Sample Nos. 15 to 18 containing resin (2) within the claimed range all provided good moldability. The above-noted results establish criticality in the claimed content range of resin (2) relative to resin (1), where resin (1) is restricted to a homopolymer of L-lactic acid and resin (2) is a copolymer of D-lactic acid and a saccharide, which results could not have been expected from the cited prior art.

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I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: Nov. 16, 2007

Toru YANO
Toru YANO